MASTER OF SCIENCE IN INFORMATION SYSTEMS AND OPERATIONS

JOINT TASK FORCE OLYMPICS: MONITORING POTENTIAL TERRORISTS' BEHAVIOR VIA DECEPTIVE COMPUTER MEANS

Christopher Cheung-Ensign, United States Naval Reserve
B.S., United States Naval Academy, 2001
and
Daniel J. Zodda-Ensign, United States Naval Reserve
B.S., Florida State University, 2001
Master of Science in Information Systems and Operations-June 2002
Advisor: Steven J. Iatrou, Department of Information Science
Second Reader: Hy Rothstein, Department of Information Science

The purpose of this thesis is to deploy tactical deception via a public website. The perception is to have the website be a supportive tool for the Joint Task Force Olympics. In actuality, it will be used to collect various data from those who attempt to access the site. The goal is not to implement a secure, impenetrable computer site or to capture hackers. On the contrary, the preference is to entice individuals or groups to enter the site and study its contents in the hope that we may discover why and from where they have accessed this site, and what files or directories allured them. The objective is to implement a successful deception by following the guidelines of the JP 358, *Joint Doctrine for Military Deception,* which contributes to the successful achievement of military objectives. The deception is focused on people researching information on the Internet for potential terrorist use. Although there are many threats to national security, terrorism is currently the most deadly of threats using one of the most trusted monitors: the Internet. There exists a relationship between the Internet and terrorism, and this thesis intends to exploit it with deception.

KEYWORDS: Web Deception, Terrorism, Internet, Honeypots

THE ISRAELI-PALESTINIAN CYCLE OF VIOLENCE AND BARGAINING: FROM THE OSLO ACCORDS TO THE INTIFADA

Natalie Chouinard-Ensign, United States Navy
B.S., Massachusetts Institute of Technology, 2001
Master of Science in Information Systems and Operations- June 2002
Advisor: Gordon McCormick, Department of Defense Analysis
Second Reader: Hy Rothstein, Department of Defense Analysis

The 1993 Oslo Accords initially brought hope of restored order to the Israeli-Palestinian conflict. While the moderate majority of Israelis and Palestinians favored the bargaining process at its onset, the radical elements conversely attempted to sabotage the agreement by way of political violence. The cyclical nature of attack and subsequent retaliation led to ultimate political radicalization of both sides. As the number of moderates decreased, and thus the net opposition to the peace process increased, the struggle for Oslo lost momentum.

This thesis correlates trends in Israeli-Palestinian violence in terms of fatalities and injuries with major peace negotiations since the 1993 Oslo Accords. Foremost, the violence data validates a theoretical model of the key variables in the "Violence and Bargaining System." Furthermore, analysis of this system addresses how radicals and moderates on both sides influence the peace process, as well as how the United States, or another third party mediator, can positively intervene to stabilize the conflict.

KEYWORDS: Israeli, Palestinian, Middle East, Peace Process, Oslo, Intifada, Conflict

FRAMING THE FORCE PROTECTION PROBLEM:
AN APPLICATION OF KNOWLEDGE MANAGEMENT

Andrew Bruen Koy-Ensign, United States Navy
B.S., United States Naval Academy, 2001
Master of Science in Information Systems and Operations-June 2002
Advisor: Erik Jansen, Department of Information Science
Second Reader: Shelley Gallup, Wayne E. Meyer Institute of Systems Engineering

In order to appraise the current terrorist and force protection threat against US Naval forces, trust in the creation of such countermeasures must be grounded in knowledge creation and management theories and practices. The AT/FP problem involves identifying the different threats associated with particular global regions and then disseminating those threats to the appropriate decision makers. This requires that leaders gain knowledge about these regions and craft appropriate warnings and plans. The Multi-Threat Alert Center is being established as the hub for this knowledge flow process. Its organization and mission will be critical for the effectiveness of any US response to AT/FP. By using theories such as the "Knowledge Management Life Cycle Models" and concepts such as "absorptive capacity," MTAC planners can better address the larger problem of knowledge creation and management. This is accomplished by ensuring that processes found in the AT/FP plan support knowledge flow and help increase the absorptive capacity of the organization. This paper identifies key knowledge creation and flow concepts, outlines a proposed AT/FP system, and applies the theory to this application. This thesis is intended to spur further research in the knowledge management fields and its application to the MTAC and AT/FP systems.

KEYWORDS: Force Protection, Knowledge Management, Absorptive Capacity, Multi-Threat Alert Center, Wayne E. Meyer Institute of Systems Engineering, Anti-Terrorism

EFFECTIVE MILITARY INNOVATION: TECHNOLOGY AND ORGANIZATION

Robin N. Marling-Ensign, United States Navy
B.S., United States Naval Academy, 2001
Master of Science in Information and Systems Operations-June 2002
Advisor: John Arquilla, Department of Defense Analysis
Second Reader: Kenneth Hagan, Naval War College

The subject of military innovation is very popular in the United States military today. Innovation is encouraged and fostered in all branches of the service. This thesis takes a step back from specific developments today and looks at modes of innovation. The different forms of innovation explored are technological innovation, i.e. introducing weapons, transportation and/or information technology into the battlefield; organizational innovation, i.e. changing how different pieces of the military relate to each other; and the combination of both technological and organizational innovation. Through a series of historical case studies, this thesis shows that militaries that have innovated only by means of adding new technology have not been very successful in the past. It also shows that militaries that innovate only organizationally often make the changes necessary to develop new concepts of operations and tactics and increase their effectiveness. However, this thesis also finds that innovating both organizationally and technologically is historically the most promising approach, in terms of increasing military power and effectiveness.

KEYWORDS: Military Effectiveness, Innovation, Transformation, Military Innovation, Organizational Innovation, Technological Innovation , Information Operations

TERRORIST DECISION MAKING:
A GAME THEORY APPROACH TO HOW TERRORIST GROUPS MANAGE RISK

Kimberly M. Seid-Ensign, United States Navy
B.S, United States Naval Academy, 2001
Master of Science in Information Systems and Operations-June 2002
Advisor: Gordon H. McCormick, Department of Defense Analysis
Second Reader: Frank R. Giordano, Department of Defense Analysis

The study of terrorism is diverse and decentralized. Unfortunately for inter-agency collaboration on counterterrorism policy, there is no universal model to utilize for analysis. The purpose of this research is to develop a basic framework to classify and analyze terrorist decision making. In particular, this study examines how terrorists manage risk.

By taking a game theory approach, decision making under uncertainty can be narrowed to three classical criteria. Using these criteria to analyze terrorist incidents establishes a distinction between risk prone and risk averse operations. Then, an examination of one terrorist organization explores how decision strategies change over time. Osama bin Laden's terrorist organization's activities are analyzed over a two-decade period to determine how risk acceptances progress as the organization matures.

Understanding terrorist decision strategies improves our ability to define their cognitive progression and anticipate their actions. Knowing a group's "risk profile" can be invaluable for developing counterterrorism policy. Based on a universal model of how terrorist organizations make decisions, it can be possible to more effectively deter and manipulate underground group actions.

KEYWORDS: Counterterrorism Terrorist Decision Making, Terrorist Organization

HISTORICAL PERSPECTIVES ON DEVELOPING AND MAINTAINING HOMEFRONT MORALE FOR THE WAR ON TERRORISM

Christopher B. Snavely-Ensign, United States Naval Reserve
B.S., United States Naval Academy, 2001
Master of Science in Information Systems and Operations-June 2002
Thesis Advisor: Steven Iatrou, Department of Information Science
Co-Advisor: Anthony Pratkanis, University of California-Santa Cruz

The war on Terrorism will be vastly different than any previous U.S. military campaign. The war will span a wide range of geographic, economic and political boundaries. Terrorist organizations will rely on stealth and dispersion to evade the American military and international law enforcement agencies. The United States will therefore be required to engage the enemy in a wide variety of arenas and with a wide variety of tools. Thus, the War on Terrorism will require the skillful blending of many American and international capabilities in order to meet the challenge. One such challenge is to cultivate and sustain homefront morale for the War on Terrorism.

This paper will offer recommendation's on how the United States should address their current homefront morale challenge through the analysis of two case studies. The first case study will examine how Great Britain was able to develop and sustain homefront morale during World War II. The second case study will examine the homefront morale issues concerning the United States involvement in the Vietnam War, specifically on their loss of public support for the war. Both case studies will address the applicability of the respective information campaign to the War on Terrorism, and will focuson generating a set of lessons learned that can be directly applied to today's homefront morale challenge. Once completed, the analysis of the two case studies will offer a solid historical basis to develop recommendations for building homefront support for the War on Terrorism. These recommendations will be presented as answers to a set of questions, fundamental to the homefront morale problem. The answers to these questions, along with their rationally, will provide the backbone of the paper's recommendations for building and sustaining homefront morale for the War on Terrorism.

KEYWORDS: Homefront Morale, Homefront Security, Information Operations, Media Influence, Ministry of Morale, Vietnam War

CAN NAVAL SURFACE FORCES OPERATE UNDER CHEMICAL WEAPONS CONDITIONS?

Adriane A. Stebbins-Ensign, United States Naval Reserve
S.B., Massachusetts Institute of Technology, 2001
Master of Science in Information Systems and Operations-June 2002
Thesis Advisor: Peter R. Lavoy, Department of National Security Affairs
Second Reader: Steven J. Iatrou, Department of Information Science

The acquisition and modernization of chemical warfare (CW) capabilities by state and non-state actors, coupled with the vulnerability of ships restricted in maneuverability to chemical weapons attacks, makes CW defense an increased priority for the U.S. Navy. Adversaries may be deterred from using chemical weapons against naval forces if the U.S. Navy demonstrates that it can continue operations under CW conditions.

In order to conduct a psychological operations campaign that will achieve the desired result, naval forces must be prepared to conduct operations in CW environments while simultaneously protecting personnel from the effects of chemical weapons. This thesis applies the principles of chemical defense outlined in *Joint Publication 3-11*—contamination avoidance, protection, and decontamination—to requirements for naval operations. It then compares the current doctrine, training, organization, and equipment of the U.S. Navy to the requirements generated by the Department of Defense.

This thesis argues that the ability of the U.S. Navy to conduct military operations in CW environments could be improved through expanded operational doctrine, a reorganization of shipboard roles for CW defense, integrated and realistic unit training, and additional procurement of collective protection systems. Implementation of these modest recommendations can dramatically increase the CW preparedness of the U.S. Navy.

KEYWORDS: Chemical Defense, Chemical Warfare, Chemical Weapons, CW, NBC Defense, Naval CW Defense